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* * * * * Welcome to STN International * * * * *

NEWS 1 Web Page URLs for STN Seminar Schedule - N. America
NEWS 2 "Ask CAS" for self-help around the clock
NEWS 3 JAN 27 Source of Registration (SR) information in REGISTRY updated
and searchable
NEWS 4 JAN 27 A new search aid, the Company Name Thesaurus, available in
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NEWS 6 MAR 03 MEDLINE and L MEDLINE reloaded
NEWS 7 MAR 03 MEDLINE file segment of TOXCENTER reloaded
NEWS 8 MAR 03 FRANCEPAT now available on STN
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NEWS 10 MAR 29 WPIFV now available on STN
NEWS 11 MAR 29 New monthly current-awareness alert (SDI) frequency in RAPRA
NEWS 12 APR 26 PROMT: New display field available
NEWS 13 APR 26 IFIPAT/IFIUDB/IFICDB: New super search and display field
available
NEWS 14 APR 26 LITALERT now available on STN
NEWS 15 APR 27 NLDB: New search and display fields available
NEWS 16 May 10 PROUSDDR now available on STN
NEWS 17 May 19 PROUSDDR: One FREE connect hour, per account, in both May
and June 2004
NEWS 18 May 12 EXTEND option available in structure searching
NEWS 19 May 12 Polymer links for the POLYLINK command completed in REGISTRY
NEWS 20 May 17 FRFULL now available on STN

NEWS EXPRESS MARCH 31 CURRENT WINDOWS VERSION IS V7.00A, CURRENT
MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP),
AND CURRENT DISCOVER FILE IS DATED 26 APRIL 2004
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* * * * * STN Columbus * * * * *

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FULL ESTIMATED COST	ENTRY	SESSION
	0.21	0.21

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STRUCTURE FILE UPDATES: 17 MAY 2004 HIGHEST RN 682740-60-9
 DICTIONARY FILE UPDATES: 17 MAY 2004 HIGHEST RN 682740-60-9

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=> file caplus		
COST IN U.S. DOLLARS	SINCE FILE	TOTAL
FULL ESTIMATED COST	ENTRY	SESSION
	0.42	0.63

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FILE COVERS 1907 - 18 May 2004 VOL 140 ISS 21
 FILE LAST UPDATED: 17 May 2004 (20040517/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

```
=> shaped
      125152 SHAPED
          1 SHAPEDS
L1      125153 SHAPED
          (SHAPED OR SHAPEDS)
```

```
=> raney
      27598 RANEY
          1 RANEYS
L2      27598 RANEY
```

(RANEY OR RANEYS)

=> l1(l)l2

L3 58 L1(L)L2

=> pore volume

118995 PORE

67206 PORES

160892 PORE

(PORE OR PORES)

88801 VOLUME

13824 VOLUMES

96842 VOLUME

(VOLUME OR VOLUMES)

641588 VOL

80758 VOLS

690718 VOL

(VOL OR VOLS)

737445 VOLUME

(VOLUME OR VOL)

L4 14398 PORE VOLUME

(PORE(W) VOLUME)

=> l3 and l4

L5 3 L3 AND L4

=> d l5 1-3 ti

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

TI Textural characterisation of iron-promoted Raney nickel catalysts synthesized by mechanical alloying

L5 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

TI Manufacture of **shaped**, fixed-bed, **Raney**-type metal catalyst for (de)hydrogenation and hydrogenolysis

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

TI Computer calculation of the porous structure of adsorbents

=> d l5 1-3 ti fbib abs

L5 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

TI Textural characterisation of iron-promoted Raney nickel catalysts synthesized by mechanical alloying

AN 2002:375767 CAPLUS

DN 136:360134

TI Textural characterisation of iron-promoted Raney nickel catalysts synthesized by mechanical alloying

AU Salmones, J.; Zeifert, B.; Cabanas-Moreno, J. G.; Aguilar-Rios, G.; Rojas, F.; Ramirez-Cuesta, A. J.

CS Instituto Mexicano del Petroleo, Mexico, D.F. 07730, Mex.

SO Adsorption Science & Technology (2001), 19(10), 871-885

CODEN: ASTEEZ; ISSN: 0263-6174

PB Multi-Science Publishing Co. Ltd.

DT Journal

LA English

AB Mesoporous binary Al_xNi_y and ternary Al_xNi_yFe_z **Raney**-type catalysts were synthesized by a two-step procedure involving two main processes, i.e. (i) mech. metal alloying and (ii) alkaline aluminum leaching. Pure metallic powders of Al, Ni and Fe (if required) were first mech. alloyed in an attrition mill and then subjected to KOH leaching to selectively remove part of the aluminum atoms. After a slow drying process, a fine, nanostructured slit-**shaped** material was obtained. Substrate characterization involved studies by atomic absorption

(AA), X-ray diffraction (XRD), SEM, energy-dispersive X-ray spectroscopy (EDXS) in the SEM and nitrogen physisorption. An intermetallic β - or B2-(AlNi) phase with a metastable bcc crystalline structure was formed as a non-equilibrium phase after the metal alloying process. Because of aluminum removal, the β -(AlNi) phase was transformed into the more stable nickel fcc structure. In this work, some important physicochem. properties of binary (Al-Ni) and ternary (Al-Ni-Fe) catalysts, with especial attention to textural properties adduced from nitrogen physisorption, are presented and discussed.

RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN
TI Manufacture of **shaped**, fixed-bed, **Raney**-type metal catalyst for (de)hydrogenation and hydrogenolysis
AN 1998:776617 CAPLUS
DN 130:40073
TI Manufacture of **shaped**, fixed-bed, **Raney**-type metal catalyst for (de)hydrogenation and hydrogenolysis
IN Sauer, Jorg; Haas, Thomas; Keller, Bruno; Freund, Andreas; Burkhardt, Werner; Michelchen, Dietrich; Berweiler, Monika
PA Degussa Aktiengesellschaft, Germany
SO Eur. Pat. Appl., 9 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 880996	A1	19981202	EP 1998-108422	19980508
	EP 880996	B1	20030625		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 19721897	A1	19981203	DE 1997-19721897A	19970526
	TW 457128	B	20011001	DE 1997-19721897	19970526
	JP 10328569	A2	19981215	TW 1998-87107849	19980520
	SG 74630	A1	20010724	DE 1997-19721897A	19970526
				JP 1998-141287	19980522
				DE 1997-19721897A	19970526
				SG 1998-1127	19980523
				DE 1997-19721897A	19970526

PATENT FAMILY INFORMATION:

FAN 2004:310810

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004072686	A1	20040415	US 2001-988390	20011119
				DE 1997-19721897A	19970526
				US 1998-81568	A219980519
	DE 19721897	A1	19981203	DE 1997-19721897	19970526
	US 6337300	B1	20020108	US 1998-81568	19980519
				DE 1997-19721897A	19970526

AB The title catalyst having a total **pore volume** 0.1-0.6 mL/g consists entirely of a catalyst metal alloy, an extractable metal alloy component and, optionally, a promoter. The catalyst comprises an activated, 0.1-2.0-mm-thick shell obtained by leaching the extractable alloy component. Thus, a catalyst having bulk d. 1.2 kg/L was prepared by extruding a mixture comprising an Co/Al alloy and Ultraform N 2320 binder, decomposing the binder at 120-280°, calcining the residue at 800°, and extracting the Al for 120 min at 80° with 20% aqueous NaOH. The catalyst was used to produce 99.9% pure isophoronediamine from isophoronenitrile in a 2-step process with 89.7% yield.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

TI Computer calculation of the porous structure of adsorbents
AN 1978:158884 CAPLUS
DN 88:158884
TI Computer calculation of the porous structure of adsorbents
AU Fasman, A. B.; Usenov, B. Zh.; Biadilov, N.; Bidaibekov, E.
CS Kaz. Gos. Univ. im. Kirova, Alma-Ata, USSR
SO Ref. Dokl. Soobshch. - Mendeleevsk. S'ezd Obshch. Prikl. Khim., 11th
(1975), Volume 3, 101. Editor(s): Rozinskaya, V. N. Publisher: "Nauka",
Moscow, USSR.
CODEN: 37MOAO
DT Conference
LA Russian
AB The adsorption isotherms of Ar and N on activated C, silica gel, and
Raney Ni catalysts were studied at 77.4 K. A computer program in
ALGOL language is presented for adsorbent sp. surface calcns. from the
adsorption phenomena, BET measurements, and by applying the method of
effective radii for pore volume distribution. The
calcns. for N and Ar adsorption were compared. The dependence of the
width of the polymol. layer of Ar on pressure was determined on powdered and
wire-
shaped metallic materials.

=> pore

118995 PORE
67206 PORES
L6 160892 PORE
(PORE OR PORES)

=> d his

(FILE 'HOME' ENTERED AT 08:34:56 ON 18 MAY 2004)

FILE 'REGISTRY' ENTERED AT 08:35:11 ON 18 MAY 2004

FILE 'CAPLUS' ENTERED AT 08:35:18 ON 18 MAY 2004

L1 125153 SHAPED
L2 27598 RANEY
L3 58 L1(L)L2
L4 14398 PORE VOLUME
L5 3 L3 AND L4
L6 160892 PORE

=> l3 and l6

L7 9 L3 AND L6

=> l7 not l5

L8 6 L7 NOT L5

=> d l8 1-6 ti

L8 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Hydrogenation of nitriles into primary amines over Raney catalysts

L8 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Effect of chemical composition on the porous structure of Raney nickel and
platinum catalysts

L8 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Mercury/mercury oxide electrode for electrolytic cells

L8 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
TI Storage of hydrogenation catalysts for chemical and electrochemical
purposes

L8 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Catalyst, particularly gas diffusion electrode, and method of making it

L8 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Catalyst electrode

=> d l8 1-6 ti fbib abs

L8 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Hydrogenation of nitriles into primary amines over Raney catalysts
 AN 2002:369028 CAPLUS
 DN 136:387717
 TI Hydrogenation of nitriles into primary amines over Raney catalysts
 IN Ansmann, Andreas; Benisch, Christoph; Funke, Frank; Ohlbach, Frank; Merger, Martin
 PA BASF Aktiengesellschaft, Germany
 SO U.S. Pat. Appl. Publ., 6 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002058841	A1	20020516	US 2001-985982	20011107
	US 6677486	B2	20040113		
	DE 10056839	A1	20020523	DE 2000-10056839A	20001116
	EP 1207149	A1	20020522	DE 2000-10056839	20001116
				EP 2001-125324	20011026
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
				DE 2000-10056839A	20001116
	JP 2002205975	A2	20020723	JP 2001-347779	20011113
				DE 2000-10056839A	20001116

AB Nitriles are hydrogenated to primary amines over an activated, alpha-Al₂O₃-containing, macroporous Raney catalyst based on an alloy of aluminum and at least one transition metal selected from the group consisting of iron, cobalt and nickel, and, if desired, one or more further transition metals selected from the group consisting of titanium, zirconium, chromium and manganese, which is obtainable by a process comprising: (a) preparing a kneadable composition comprising the alloy, a shaping aid, water and a pore former; (b) shaping the kneadable composition to form a shaped body; (c) calcining the shaped body; (d) activating the calcined shaped body by treatment with an aqueous alkali solution; (e) rinsing the shaped catalyst body with aqueous alkali metal hydroxide solution; and (f) rinsing the shaped catalyst body with water.

L8 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Effect of chemical composition on the porous structure of Raney nickel and platinum catalysts
 AN 1976:549499 CAPLUS
 DN 85:149499
 TI Effect of chemical composition on the porous structure of Raney nickel and platinum catalysts
 AU Pushkareva, G. A.; Timofeeva, V. F.; Bazhakov, D. K.; Fasman, A. B.
 CS Kaz. Gos. Univ. im. Kirova, Alma-Ata, USSR
 SO Mater. Resp. Nauchno-Tekh. Konf. Molodykh Uch. Pererab. Nefti Neftekhim., 2nd (1974), 217-19. Editor(s): Sultanov, A. S. Publisher: Sredneaziat. Nauchno-Issled. Inst. Neftepererab. Prom-sti., Tashkent, USSR.
 CODEN: 33GBAT
 DT Conference
 LA Russian
 AB The porous structure of Raney Ni or Raney Pt

catalysts, prepared by leaching of Al from alloys of Group VIII elements, was studied by capillary condensation, Hg porosimetry, x-ray diffraction, and Ar sorption hysteresis. The form of **pores** depended on the Pt-group metal concentration in the catalysts and on the phase composition of the leached-out alloys. The catalysts prepared from alloys NiAl₃-M (M = Cu, Pt, Ag) and Ni₅₀-x-Mx-50% Al (M = Ag, Mo, V, Ta, Rh) have cylindric and those prepared from Pt Al₃-M (M = Pd, Rh, Ru, Ir) bottle-shaped **pores**.

L8 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Mercury/mercury oxide electrode for electrolytic cells
 AN 1972:534346 CAPLUS
 DN 77:134346
 TI Mercury/mercury oxide electrode for electrolytic cells
 IN Jung, Margarete
 PA Varta G. m.b.H.
 SO Ger. Offen., 14 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2108021	A	19720831	DE 1971-2108021	19710219
	IT 947580	A	19730530	IT 1972-20587	19720215
				DE 1971-2108021	19710219
	GB 1374145	A	19741113	GB 1972-7455	19720217
				DE 1971-2108021	19710219
	FR 2125624	A1	19720929	FR 1972-5789	19720221
	FR 2125624	A5	19720929		
			DE 1971-2108021	19710219	

AB In a process for the manufacture of Hg/HgO electrodes for galvanic cells containing alkaline electrolytes and with a matrix of a metal capable of sorbing H, the matrix metal is charged with H and then contacted with Hg. Thus, the matrix metal may be charged with H by extracting at least portions of the inactive component of a **Raney** alloy, or by aid of the aqueous solution of a complex hydride, such as hydrazine or alkali boranate. During amalgamation the matrix is preferably cathodically polarized. Thus, Ni, Fe, or Co, individually, as mixts., or as alloys are charged with H and then contacted with Hg. During charging with H and contacting with Hg the matrix metal is protected against contact with oxidizing substances, e.g. by an alkali metal hydroxide protective layer. The matrix metal is contacted with Hg until no more H evolves from the metals. The matrix is preferably made by pressing and sintering of powdered **Raney** alloys of Ni, Fe, and Co. The powdered matrix metal is **shaped** into an electrode body after addition of an oxidation-resistant organic binder and optionally also of a **pore**-forming agent.

L8 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN
 TI Storage of hydrogenation catalysts for chemical and electrochemical purposes
 AN 1967:468021 CAPLUS
 DN 67:68021
 TI Storage of hydrogenation catalysts for chemical and electrochemical purposes
 PA Varta Pertrix-Union G.m.b.H.
 SO Neth. Appl., 25 pp.
 CODEN: NAXXAN
 DT Patent
 LA Dutch
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI NL 6614162

19670410

DD 19651009
DD 19660325

DE 1542552
DE 1542556
DE 1546730
FR 1509966
GB 1160872
US 3573038

DE
DE
DE
FR
GB
US

19710000

AB Hydrogenation catalysts are unstable towards atmospheric O and are deactivated during storage. Such powder catalysts used to prepare H electrodes and containing promoters as Cu, Hg, Ag, or Cd are dehydrogenated, treated with soluble I or Br compds. or O-containing Cl compds. The deactivated catalyst is mixed with electrolyte-unsol. metals or C powder to be **shaped** to electrodes by pressure and heat treatment. The deactivated powder is mixed with metalloidal or metallic O-acceptors giving H during their dissoln. (Mg, Ca, Zn, B, Al, or Si), with volatile compds. [as (NH₄)₂CO₃ or citric acid] when the sintering is performed under pressure; alkali carbonated and chlorides when sintering is performed under heat and pressure. The powder or formed catalyst is charged with H at 60-90° under cathodic charge in a solution in which a metal is dissolved with H release. The H loading is interrupted one or more times by anodic charge. Thus, 500 g. **Raney** alloy containing 50% weight Ni and 50% weight Al (particle size 10-15 μ) was treated with aqueous KOH 6N containing 10 g./l. K Na tartrate with cooling. After the 1st H release, 125 ml. of a 10 g./l. CuCl₂·2H₂O solution was added under stirring to precipitate finely

divided Cu. The suspension was boiled to complete the H release; the **Raney** Ni was then washed twice with fresh KOH and 5 times with 2 l. distilled water. A KIO₃ solution was added to remove H completely from the catalyst. The solution was filtered after 24 hrs. and the solid washed with water, with acetone and dried at 50° in vacuo. **Raney** Ni 1 weight part was mixed with 1 weight part Ni carbonyl and 0.2 weight part B

and

pressed at 450° under 0.5 ton/cm.² The resulting electrode was treated 30 min. in KOH to dissolve B with O-removal and nascent H formation which fills the catalyst **pores**.

L8 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

TI Catalyst, particularly gas diffusion electrode, and method of making it

AN 1967:428779 CAPLUS

DN 67:28779

TI Catalyst, particularly gas diffusion electrode, and method of making it

IN Siemens A.-G.; Varta A.-G.

SO Fr., 3 pp.

CODEN: FRXXAK

DT Patent

LA French

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI FR 1451664

19660902

DE 19641020

DE 1280822

DE

GB 1110852

GB

US 3481789

19690000

US

AB Two layers having **pores** of different size make it possible to increase the catalytic activity. The finest **pores** are in contact with the electrolyte and the largest ones, with the gas. A support coat with fine **pores**, conductor of elec., contains larger **pores**, the surface of which is covered by a substance having catalytic or electrochem. activity. The materials forming the support coat (coal and (or) Ni agglomerated powder plus catalyst) is compressed and sintered over a packing material with large grains. These two operations can be simultaneous or successive. For the first case, the

packing material must be vaporizable or decomposable during the sintering operation; for the 2nd case, the packing material must be resistant to heat, and is removed after sintering (dissoln. in H₂O). A solution containing

1

part of Zapon lacquer in 5 parts by weight of acetone is poured onto KCl (grain size 300-100 μ), heated while stirring, and then milled with a **Raney** Ni powder (Al/Ni = 1/1 by weight, grain size 6 μ). After sifting the excess powder, the packing material is mixed with a carbonyl Ni powder (1/3 by weight); then, 20 g. of the mixture is molded into an electrode-shaped mold of 40 mm. diameter at 400° under 30 tons. The KCl and the inactive elements of the Ni **Raney** are dissolved in a 5N KOH solution. A 2nd electrode was molded by treating 10 g. of the above mixture covered with 3 g. of carbonyl Ni under 30 tons, at 400°. The electrodes obtained exhibit extraordinary mech. solidity.

L8 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN

TI Catalyst electrode

AN 1965:469167 CAPLUS

DN 63:69167

OREF 63:12683h,12684a-e

TI Catalyst electrode

IN Justi, Eduard; Friese, Karl H.; Winsel, August

PA Varta Pertrix-Union G.m.b.H.; Siemens-Schuckertwerke A.-G.

SO 11 pp.

DT Patent

LA Unavailable

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3201282		19650817	US DE	19580719

AB In fuel cells, for the electrochem. generation of energy from reducible or oxidizable substances which generally react at the catalytically active parts of the electrode with evolution of gas, even in the current-less state, such undesirable reactions are automatically interrupted by providing porous electrodes composed of layers with different properties, i.e. a catalytically active working layer, covered by an inactive surface layer. The pore radii are in the range 0.5-50 μ and the radii of the active layer are at least 1.5 times those of the inactive layer. For substances which react with the evolution of H, the working layer is made from a material which acts as a reversible H electrode, and the surface layer from a material with a H min. overvoltage which is higher than the potential of the reversible H electrode under a H pressure equal to the capillary pressure of the electrolyte within the pores of the surface layer. In this way, the cathodic evolution of H is prevented at the surface layer of the noncharged electrode in contact with the electrolyte. Analogous choices for electrode materials are made, in case of substances reacting with the evolution of O. The active working layer is a double-skeleton catalyst electrode (CA 54, 192291), i.e. a catalytically active **Raney** metal embedded in 80-20% by weight of an elec. conductive skeleton support. The surface layer also may have this structure, but in this case, the **Raney** metal chosen must be catalytically inactive with respect to the reaction proceeding on the electrode. Plastics, such as high mol. weight polyethylene also may be employed for the surface layer. Thus, a mold was charged successively with the following powder mixts.: (a) 1 g. of a mixture of 1.2 parts by weight of Cu powder, 3-10 μ , and 1 part by weight of a pulverulent **Raney** Cu alloy, 30-50 μ , containing equal wts. of Cu and Al; (b) 10 g. of a mixture of 1.5 parts by weight of Ni(CO)₄ powder, 1-5 μ , and 1 part by weight of **Raney** Ni alloy, 75-100 μ , containing equal wts. of Ni and Al; and (c) 1 g. of the mixture described in (a). The powders were pressed at 450° and a pressure of 5000 kg./cm.² The Al was removed with 6N KOH to form the double-skeleton catalyst electrode structure. In doing so, the potential of the electrode was kept by 300 mv. more pos.

than the potential of the reversible H electrode under atmospheric pressure in the activating solution by applying an anodic current. The electrode was next provided with a current tap of lye-resistant steel and immersed in a solution containing 360 ml. H₂O, 120 ml. EtOH, and 216 g. KOH. At 66°, a constant anodic c.d. ≤30 ma./cm.² could be drawn. Its equilibrium rest potential was 1.14 v. vs. S.C.E. The effect of the inactive surface layer was particularly impressive at the border of the plate-shaped electrode where the working layer was not covered by the surface layer. Here, H bubbles were constantly evolved. This detrimental marginal conversion was eliminated by clamping the electrode so as to seal off the exposed areas of the working layer. This prevented the marginal H evolution, but did not decrease the c.d. which could be drawn from the electrode, based on the free surface area.

=>

=> logoff hold

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

54.66

55.29

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-6.24

-6.24

SESSION WILL BE HELD FOR 60 MINUTES

STN INTERNATIONAL SESSION SUSPENDED AT 08:53:59 ON 18 MAY 2004

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:

* * * * * RECONNECTED TO STN INTERNATIONAL * * * * *

SESSION RESUMED IN FILE 'CAPLUS' AT 09:05:28 ON 18 MAY 2004

FILE 'CAPLUS' ENTERED AT 09:05:28 ON 18 MAY 2004

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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

54.66

55.29

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

CA SUBSCRIBER PRICE

-6.24

-6.24

=> d his

(FILE 'HOME' ENTERED AT 08:34:56 ON 18 MAY 2004)

FILE 'REGISTRY' ENTERED AT 08:35:11 ON 18 MAY 2004

FILE 'CAPLUS' ENTERED AT 08:35:18 ON 18 MAY 2004

L1 125153 SHAPED
L2 27598 RANEY
L3 58 L1(L)L2
L4 14398 PORE VOLUME
L5 3 L3 AND L4
L6 160892 PORE
L7 9 L3 AND L6

L8 6 L7 NOT L5

=> isophorone diamine
8257 ISOPHORONE
38 ISOPHORONES
8266 ISOPHORONE
(ISOPHORONE OR ISOPHORONES)
39726 DIAMINE
24859 DIAMINES
55216 DIAMINE
(DIAMINE OR DIAMINES)
L9 563 ISOPHORONE DIAMINE
(ISOPHORONE(W)DIAMINE)

=> l3 and l9
L10 0 L3 AND L9

=> l2 and l9
L11 1 L2 AND L9

=> d l11 ti fbib abs

L11 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN
TI Preparation of **isophorone diamine** by heteropoly acid
catalyzed imination of isophorone nitrile followed by reduction
AN 1996:169251 CAPLUS
DN 124:316585
TI Preparation of **isophorone diamine** by heteropoly acid
catalyzed imination of isophorone nitrile followed by reduction
IN Herkes, Frank E.; Kourtakis, Kostantinos
PA E. I. Du Pont de Nemours & Co., USA
SO U.S., 5 pp. Cont.-in-part of U.S. Ser. No. 94,361, abandoned.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5491264	A	19960213	US 1994-304072	19940912
				US 1993-94361	19930727

PATENT FAMILY INFORMATION:

FAN	1995:422842				
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 4426472	A1	19950202	DE 1994-4426472	19940726
				US 1993-94361	19930727

OS CASREACT 124:316585
AB A continuous process for the preparation of 3-cyano-3,5,5-trimethylcyclohexaneimine, the ketimine intermediate to **isophorone diamine**, comprises the treatment of 3-cyano-3,5,5-trimethylcyclohexanone (isophorone nitrile, IPN) with ammonia in a molar ratio of 6-100 mol of ammonia per mol of IPN, at a temperature in the range of 50° to 90° and at a pressure in the range of 500 to 3500 psig, in the presence of 0.2-3 g of a heteropoly acid catalyst supported on a refractory oxide or carbon per g of IPN plus ammonia, wherein the catalyst remains on the support throughout the process. The ketimine is then reduced to **isophorone diamine** with hydrogen and ammonia in presence of a hydrogenation catalyst. Thus, e.g., into a vertical stainless steel fixed bed continuous flow reactor was charged 12-molybdophosphoric acid supported on titania pellets; a second vertical tubular hydrogenation reactor in series was charged with **Raney** cobalt catalyst and glass beads; liquid ammonia (330 g/h) and isophorone nitrile (99%, 136 g/h) were pumped continuously downflow through the first reactor at 60° and 238 bar pressure (the hold-up-time in the imination step was 9 min.); the ketimine product in ammonia exiting the

first reactor was then fed into the top of the hydrogenation reactor at 110° and 238 bar along with 74 L/h hydrogen; GC anal. indicated 92.2 wt % isophorone diamine vs. 73.5 wt % (16 min imination residence time) in the absence of imination catalyst.

=> file reg

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
69.33	69.96

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-6.93	-6.93

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STRUCTURE FILE UPDATES: 17 MAY 2004 HIGHEST RN 682740-60-9
 DICTIONARY FILE UPDATES: 17 MAY 2004 HIGHEST RN 682740-60-9

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

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<http://www.cas.org/ONLINE/DBSS/registryss.html>

=> e isophorone diamine/cn

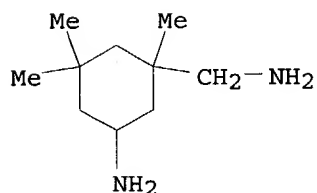
E1	1	ISOPHORONE DIACETOACETAMIDE/CN
E2	1	ISOPHORONE DIACETOACETAMIDE-TRIPROPYLENE GLYCOL DIACRYLATE COPOLYMER/CN
E3	1 -->	ISOPHORONE DIAMINE/CN
E4	1	ISOPHORONE DIAMINE-1,1'-METHYLENEBIS(4-ISOCYANATOCYCLOHEXANE)-POLYETHYLENE GLYCOL BLOCK COPOLYMER/CN
E5	1	ISOPHORONE DIAMINE-2-ETHYLHEXYL GLYCIDYL ETHER COPOLYMER/CN
E6	1	ISOPHORONE DIAMINE-IPDI-KURAPOL P 2010 BLOCK COPOLYMER/CN
E7	1	ISOPHORONE DIAMINE-IPDI-POLYOXYPROPYLENE-PLACCEL CD 220PL COPOLYMER/CN
E8	1	ISOPHORONE DIAMINE-ISOPHORONE DIISOCYANATE-2,2,4-TRIMETHYL-1,6-HEXANEDIOL-2,4,4-TRIMETHYL-1,6-HEXANEDIOL COPOLYMER/CN
E9	1	ISOPHORONE DIAMINE-ISOPHORONE DIISOCYANATE-JEFFAMINE ED 900 BLOCK COPOLYMER/CN
E10	1	ISOPHORONE DIAMINE-ISOPHORONE DIISOCYANATE-PHTHALIC ANHYDRIDE COPOLYMER/CN
E11	1	ISOPHORONE DIAMINE-ISOPHORONE DIISOCYANATE-POLY(TETRAMETHYLENE GLYCOL)-TETRAMETHYLXYLYLENE DIISOCYANATE COPOLYMER/CN
E12	1	ISOPHORONE DIAMINE-ISOPHORONE DIISOCYANATE-PROPOXYLATED BISPHENOL A-TEREPHTHALIC ACID-TRIMELLITIC ANHYDRIDE COPOLYMER/CN

=> e3

L12 1 "ISOPHORONE DIAMINE"/CN

=> d 112

L12 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2004 ACS on STN
 RN 2855-13-2 REGISTRY
 CN Cyclohexanemethanamine, 5-amino-1,3,3-trimethyl- (9CI) (CA INDEX NAME)
 OTHER CA INDEX NAMES:
 CN Cyclohexanemethylamine, 5-amino-1,3,3-trimethyl- (7CI, 8CI)
 OTHER NAMES:
 CN 1,3,3-Trimethyl-1-aminomethyl-5-aminocyclohexane
 CN 1-Amino-3,3,5-trimethyl-5-aminomethylcyclohexane
 CN 1-Amino-3-(aminomethyl)-3,5,5-trimethylcyclohexane
 CN 3,3,5-Trimethyl-5-aminomethylcyclohexylamine
 CN 3-Aminomethyl-3,5,5-trimethylcyclohexylamine
 CN 5-Amino-1,3,3-trimethylcyclohexanemethanamine
 CN 5-Amino-1,3,3-trimethylcyclohexanemethylamine
 CN Araldite HY 5083
 CN Chemammia CA 17
 CN Epilox H 10-31
 CN IPD
 CN IPDA
 CN Isophorone diamine
 CN Luxam IPD
 CN Polypox IPD
 CN Rutadur SG
 CN Vestamin IPD
 FS 3D CONCORD
 DR 177646-11-6, 129050-51-7, 25495-81-2, 50858-71-4, 52004-55-4, 45981-71-3,
 52697-24-2, 116723-72-9
 MF C10 H22 N2
 CI COM
 LC STN Files: AQUIRE, BEILSTEIN*, BIOBUSINESS, BIOSIS, BIOTECHNO, CA,
 CAOLD, CAPLUS, CASREACT, CBNB, CHEMCATS, CHEMLIST, CHEMSAFE, CIN,
 CSCHEM, CSNB, EMBASE, HSDB*, IFICDB, IFIPAT, IFIUDB, MEDLINE, MSDS-OHS,
 NIOSHTIC, PIRA, PROMT, RTECS*, TOXCENTER, ULIDAT, USPAT2, USPATFULL
 (*File contains numerically searchable property data)
 Other Sources: DSL**, EINECS**, TSCA**
 (**Enter CHEMLIST File for up-to-date regulatory information)



PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1222 REFERENCES IN FILE CA (1907 TO DATE)
 611 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 1222 REFERENCES IN FILE CAPLUS (1907 TO DATE)
 8 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

=> file caplsu
 'CAPLSU' IS NOT A VALID FILE NAME
 SESSION CONTINUES IN FILE 'REGISTRY'
 Enter "HELP FILE NAMES" at an arrow prompt (=>) for a list of files
 that are available. If you have requested multiple files, you can
 specify a corrected file name or you can enter "IGNORE" to continue
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=> file caplus
 COST IN U.S. DOLLARS SINCE FILE TOTAL

	ENTRY	SESSION
FULL ESTIMATED COST	6.62	76.58
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CAS SUBSCRIBER PRICE	0.00	-6.93

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FILE 'COVERS' 1907 - 18 May 2004 VOL 140 ISS 21
 FILE LAST UPDATED: 17 May 2004 (20040517/ED)

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=> l12
 L13 1222 L12

=> d his

(FILE 'HOME' ENTERED AT 08:34:56 ON 18 MAY 2004)

FILE 'REGISTRY' ENTERED AT 08:35:11 ON 18 MAY 2004

FILE 'CAPLUS' ENTERED AT 08:35:18 ON 18 MAY 2004

L1 125153 SHAPED
 L2 27598 RANEY
 L3 58 L1(L)L2
 L4 14398 PORE VOLUME
 L5 3 L3 AND L4
 L6 160892 PORE
 L7 9 L3 AND L6
 L8 6 L7 NOT L5
 L9 563 ISOPHORONE DIAMINE
 L10 0 L3 AND L9
 L11 1 L2 AND L9

FILE 'REGISTRY' ENTERED AT 09:08:38 ON 18 MAY 2004

E ISOPHORONE DIAMINE/CN

L12 1 E3

FILE 'CAPLUS' ENTERED AT 09:09:16 ON 18 MAY 2004

L13 1222 L12

=> l12/prep

1222 L12
 3148620 PREP/RL
 L14 369 L12/PREP
 (L12 (L) PREP/RL)

=> l14 and l2

L15 16 L14 AND L2

=> l6 and l15

L16 3 L6 AND L15

=> d l16 1-3 ti fbib abs

L16 ANSWER 1 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

TI Hydrogenation of nitriles into primary amines over Raney catalysts

AN 2002:369028 CAPLUS

DN 136:387717

TI Hydrogenation of nitriles into primary amines over Raney catalysts

IN Ansmann, Andreas; Benisch, Christoph; Funke, Frank; Ohlbach, Frank; Merger, Martin

PA BASF Aktiengesellschaft, Germany

SO U.S. Pat. Appl. Publ., 6 pp.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2002058841	A1	20020516	US 2001-985982	20011107
	US 6677486	B2	20040113		
	DE 10056839	A1	20020523	DE 2000-10056839A	20001116
	EP 1207149	A1	20020522	EP 2001-125324	20011026
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
	JP 2002205975	A2	20020723	JP 2001-347779	20011113
				DE 2000-10056839A	20001116

AB Nitriles are hydrogenated to primary amines over an activated, alpha-Al₂O₃-containing, macroporous Raney catalyst based on an alloy of aluminum and at least one transition metal selected from the group consisting of iron, cobalt and nickel, and, if desired, one or more further transition metals selected from the group consisting of titanium, zirconium, chromium and manganese, which is obtainable by a process comprising: (a) preparing a kneadable composition comprising the alloy, a shaping

aid, water and a pore former; (b) shaping the kneadable composition to form a shaped body; (c) calcining the shaped body; (d) activating the calcined shaped body by treatment with an aqueous alkali solution; (e) rinsing the shaped catalyst body with aqueous alkali metal hydroxide solution; and (f) rinsing the shaped catalyst body with water.

L16 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

TI Manufacture of shaped, fixed-bed, Raney-type metal catalyst for (de)hydrogenation and hydrogenolysis

AN 1998:776617 CAPLUS

DN 130:40073

TI Manufacture of shaped, fixed-bed, Raney-type metal catalyst for (de)hydrogenation and hydrogenolysis

IN Sauer, Jorg; Haas, Thomas; Keller, Bruno; Freund, Andreas; Burkhardt, Werner; Michelchen, Dietrich; Berweiler, Monika

PA Degussa Aktiengesellschaft, Germany

SO Eur. Pat. Appl., 9 pp.

CODEN: EPXXDW

DT Patent

LA German

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	EP 880996	A1	19981202	EP 1998-108422	19980508
	EP 880996	B1	20030625		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 19721897	A1	19981203	DE 1997-19721897A	19970526
	TW 457128	B	20011001	DE 1997-19721897	19970526
				TW 1998-87107849	19980520
				DE 1997-19721897A	19970526
	JP 10328569	A2	19981215	JP 1998-141287	19980522
				DE 1997-19721897A	19970526
	SG 74630	A1	20010724	SG 1998-1127	19980523
				DE 1997-19721897A	19970526

PATENT FAMILY INFORMATION:

FAN 2004:310810

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004072686	A1	20040415	US 2001-988390	20011119
				DE 1997-19721897A	19970526
	DE 19721897	A1	19981203	US 1998-81568	A219980519
	US 6337300	B1	20020108	DE 1997-19721897	19970526
				US 1998-81568	19980519
				DE 1997-19721897A	19970526

AB The title catalyst having a total pore volume 0.1-0.6 mL/g consists entirely of a catalyst metal alloy, an extractable metal alloy component and, optionally, a promoter. The catalyst comprises an activated, 0.1-2.0-mm-thick shell obtained by leaching the extractable alloy component. Thus, a catalyst having bulk d. 1.2 kg/L was prepared by extruding a mixture comprising an Co/Al alloy and Ultraform N 2320 binder, decomposing the binder at 120-280°, calcining the residue at 800°, and extracting the Al for 120 min at 80° with 20% aqueous NaOH. The catalyst was used to produce 99.9% pure isophoronediamine from isophoronenitrile in a 2-step process with 89.7% yield.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L16 ANSWER 3 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN

TI Use of **Raney** cobalt hydrogenation catalysts in the manufacture of isophoronediamine

AN 1997:140309 CAPLUS

DN 126:145597

TI Use of **Raney** cobalt hydrogenation catalysts in the manufacture of isophoronediamine

IN Haas, Thomas; Burmeister, Roland; Arntz, Dietrich; Weber, Karl-Ludwig; Berweiler, Monika

PA Degussa A.-G., Germany

SO Ger., 6 pp.

CODEN: GWXXAW

DT Patent

LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 19540191	C1	19961121	DE 1995-19540191	19951030
	EP 771784	A1	19970507	EP 1996-115705	19961001
	R: BE, CH, DE, ES, FR, GB, IT, LI, NL				
				DE 1995-19540191A	19951030
	TW 411327	B	20001111	TW 1996-85113048	19961024
				DE 1995-19540191A	19951030
	JP 09169706	A2	19970630	JP 1996-285596	19961028
				DE 1995-19540191A	19951030
	US 5679860	A	19971021	US 1996-739044	19961028
				DE 1995-19540191A	19951030

AB Isophoronediamine (I), useful as a monomer for polyamides, a crosslinking agent for epoxy resins, and an intermediate for manufacture of IPDI, is prepared

from isophorone nitrile (II) with improved yield and space-time yield in two steps by (1) (catalytic) imination with NH₃ and (2) hydrogenation in the presence of a C1-3 alc. over a solid bed of Raney Co catalyst at 50-150°/3-10 MPa. The hydrogenation catalyst bed is prepared by sintering a mixture of powdered Co and powdered Raney Co alloy to give a material with d. 1.3-5.5 g/cm³, pore volume ≤0.5 cm³/g, and surface area <1 m²/g, followed by activation with alkali metal hydroxide. Thus, passing 260 mL/h 24:76 II-MeOH and 140 mL/h NH₃ at 100°/6 MPa and liquid hourly space velocity 2 through a tubular reactor containing 40 mL TiO₂ imination catalyst and 160 mL Raney Co hydrogenation catalyst in successive zones gave I in 92.2% yield (based on II), along with 3% 4,6,6-trimethyl-2-azabicyclo[3.2.1]octane and 3.3% 6-imino-3,3,5-trimethyl-7-azabicyclo[3.2.1]octane, which could be recycled. Distillation gave I of 99.8% purity.

=> logoff hold

COST IN U.S. DOLLARS	SINCE FILE	TOTAL
	ENTRY	SESSION
FULL ESTIMATED COST	17.93	94.51
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-2.08	-9.01

SESSION WILL BE HELD FOR 60 MINUTES
STN INTERNATIONAL SESSION SUSPENDED AT 09:12:17 ON 18 MAY 2004

Connecting via Winsock to STN

Welcome to STN International! Enter x:x

LOGINID:SSSPTA1623PAZ

PASSWORD:

* * * * * RECONNECTED TO STN INTERNATIONAL * * * * *
SESSION RESUMED IN FILE 'CAPLUS' AT 09:54:40 ON 18 MAY 2004
FILE 'CAPLUS' ENTERED AT 09:54:40 ON 18 MAY 2004
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	ENTRY	SESSION
FULL ESTIMATED COST	17.93	94.51
DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE	TOTAL
	ENTRY	SESSION
CA SUBSCRIBER PRICE	-2.08	-9.01

=>

Connection closed by remote host

---Logging off of STN---

END

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Exiting the script...